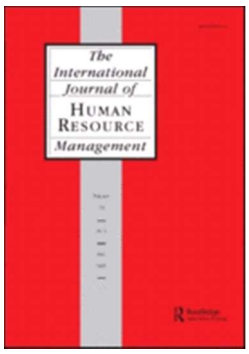

Teamworking under Lean in UK Public Services: Lean Teams and Team Targets in HM Revenue & Customs (HMRC)

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Introduction

The authors of *The Machine that Changed the World* were in no doubt about the importance of team working in lean production: 'in the end,' they say (Womack *et al*., 1990, p. 99), 'it is the dynamic work team that emerges as the heart of the lean factory'. It is with this bold statement in mind that we seek to explore and develop our conceptual and practical understanding of how teamworking operates under Lean. We examine these issues in the context of a high-profile case of Lean implementation in the UK public sector, the Pacesetter programme of the UK's tax assessment and collection service, Her Majesty's Revenue & Customs (HMRC). We find that although the teams themselves were ostensibly set up on a lean basis, they were largely unable to operate as such as a result of the pressures they faced to meet their work targets. This in turn suggests particular ways in which we might better understand how Lean interacts with the context or environment into which it is introduced.

The paper thus addresses four main questions:

1. Given the stated importance of teamworking in lean production, what would we expect teams to look like as part of the contemporary application of Lean thinking?
2. What can we say about lean teams in practice on the basis of an in-depth study of the large-scale, high-profile implementation of Lean in HMRC? As part of this,

how do our findings stand in relation to the largely negative portrayal of Lean in HMRC put forward by Carter et al. (2011a, 2011b, 2013a, 2013b)?

3. In light of our prior expectations, how we can explain the form that teamworking takes in practice?
4. What are the implications of our analysis for our understanding of Lean and the way it is introduced and operated in organizations?

In order to address these questions, the remainder of the paper divides into four main parts. Following this introduction, our review of the secondary literature focuses on the first of our questions. We look at the form we might expect teamworking to take under Lean, setting this in the context of the current widespread application of Lean in the UK. Second, we describe the methods and approach employed in the empirical research upon which the paper draws. In the paper's next section, the findings, we turn to the question of what teams and teamworking look like in practice under Lean. In our discussion and conclusion section, we address the third and fourth of our questions, trying to explain the form that Lean teamworking takes in practice, and using this in an attempt to develop our wider understanding of Lean.

Lean, lean teams and teamworking

Principles of lean production

If, as Womack et al. (1990, p. 99) claim, the work team is at the 'heart' of lean production, then we need first of all to understand what that team might look like. The development of the basic principles of lean production has been widely discussed (see Ohno 1988; Womack et al. 1990; Womack and Jones 2003; Hines et al. 2004; Holweg 2007) and only a brief recap is necessary here. The term 'lean' arose from the US-based International Motor Vehicle Program, a project which resulted in the

publication of *The Machine that Changed the World* (Womack et al., 1990). Lean production, it was claimed, 'uses less of everything compared with mass production' (1990, p. 13). Although the term was new, the principles upon which it was based originated in the practices of the Toyota Motor Corporation in the 1950s, and if lean production has any real meaning as a concept, then this resides in the idea of just-in-time production (JIT). In a manufacturing context this means that rather than defining an optimum level of stock or work-in-progress, the objective is to reduce that level to zero (Oliver, 1991). At each stage of the manufacturing process, in other words, production takes place 'just in time' for it to be used at the next stage of the process. Production takes place ultimately in response to customer demand from outside the factory: it is 'pulled' from outside rather than being 'pushed' from within.

While these might appear to be rather technical considerations of concern only to operations managers, the implications for the management of labour are, at least in principle, quite profound. At the level of the individual worker, the application of the JIT principle implies that there are times when it best for them to stop working and to be what in more conventional terms would be described as 'idle'. As is made clear by the creator of the JIT system in Toyota, Taiichi Ohno (1988, pp. 59-60), all that employees achieve by working beyond the immediate requirements of customer demand is the creation of unnecessary cost. But how would a work *team* operate under these circumstances? Ohno himself is rather cryptic on this point, relying on a series of sports metaphors (1988, pp. 23-25). Other authors have sought to be more concrete in their analysis of lean teams. In the next section we see how such teams have been characterised by the nature of the autonomy they are able to exercise.

Autonomy in Lean Teams

Any consideration of teamworking in a lean context has to take account of the fact that there appears to be an inherent inconsistency between the two things. A lean plant, claimed Womack et al. (1990, p. 99), 'transfers the maximum number of tasks and responsibilities to those workers actually adding value to the car on the line'. From an employee's point of view, this sounds very positive. Moreover, it seems to fit with the notion that the work team should be able to exercise a degree of discretion. This is the notion that underpins the idea of the team as an autonomous work group (AWG) in the tradition of sociotechnical systems theory (see Benders and Van Hootegem, 1999). The difficulty, however, is reconciling this autonomy with the operational principles of just-in-time. With the flow of production tightly controlled in response to customer demand, the degree of discretion that the team is able to exercise is likely to be severely circumscribed (Klein, 1989). This apparent inconsistency is what Benders and Van Hootegem (1999) call the 'issue of autonomy'.

The nature of lean teams in practice has been investigated by a number of authors. Benders and Van Hootegem (2000), for example, drawing on such classic studies as Dore's (1973), see one of the key characteristics of the Japanese model as being the detailed description and rigorous regulation of work through Standard Operating Procedures (SOPs). This is a picture backed up by more recent research. Delbridge et al. (2000) examined managerial perceptions of employee responsibilities in lean plants in the automotive components manufacturing sector. Their main findings were that the role of production workers was quite limited in areas such as maintenance and production management.

First of all, we might question the often implicit assumption that autonomy is something that is necessarily welcomed by employees. Vidal's (2007) work on the

introduction of 'post-Fordist' production systems in the US is critical of what he describes as 'the empowerment theory of job satisfaction'. His own research in a variety of settings reveals many workers with little desire for empowerment, preferring instead the predictability of more Fordist work arrangements. Job satisfaction in these circumstances is related more to a 'fair day's work for a fair day's pay; while empowerment or autonomy is associated more with higher levels of stress.

In any case, rather than seeing lean teams as a diluted version of the sociotechnically-inspired AWG, we can look at them as operating a different kind of autonomy. In the case of Lean we can say that an indirect form of autonomy exists, one that is effective through the responsibility that employees have for shaping the SOPs. Thus on a day-to-day basis, the team might have to work in a highly prescribed way, following the SOPs that have been established. The question, however, is what should these procedures be and, in some ways more importantly, who should decide this? In the Toyota Production System, a key part of the worker's role is to contribute in this way to the continuous improvement of the production process. It is these ideas that have given rise to what has been described as 'democratic Taylorism' (Adler and Cole, 1993).

At the same time, however, we need to consider just how important these activities are for the workers involved. Schouteten and Benders (2004), for example, in their study of the Netherlands-based plant of a Taiwanese bicycle manufacturer, found that workers' involvement in continuous improvement activities accounted for only a small proportion of their working time. Their study resonates with the 'contradiction' identified by Conti and Warner (1993) in their examination of the nature of work in a number of Japanese manufacturing plants. Conti and Warner

(1993: 39) described how 'employees [work] four hours a month in a very non-Taylorist manner to make their work for the rest of the month even more Taylor-like.'

Related to this is the question of the degree to which the nature of work is shaped or constrained by the system of production. Schouteten and Benders (2004) draw attention to the short-cycle, repetitive nature of the bicycle-manufacturing process. They acknowledged that workers were not under excessive strain, but concluded that this was due to the undemanding nature of the job rather than the degree of latitude or autonomy that the workers were able to exercise. Other work by Benders (eg Benders 1995) has emphasised the importance of what he calls 'output characteristics'—most especially, the variety of products being produced. As is made clear in Hasle et al.'s (2012) recent review, it can in fact be quite difficult to establish any direct link between Lean and the working environment. The effects of Lean *per se* can be difficult to isolate from the effects of the nature of the outputs being produced.

Second-wave Lean in the UK

These debates around teams and teamworking were very much connected with the emergence of lean concepts in the late-1980s and 1990s. In the last ten years or so we have seen what we might describe as 'second-wave' Lean, the chief concern of its many advocates being to establish that lean concepts can be applied in any organizational setting. The essence of this new version of Lean has been expressed in the now-familiar 'five principles' of 'lean thinking' put forward by Womack and Jones (2003). For our purposes, what is most significant about these principles is that, just as with the original ideas of the ideas of lean production, they contain very

little in the way of direct implication about how Lean will or should be experienced by employees.

This, however, has done little to deter the upsurge of interest in lean on the part of both practitioners and researchers. In recent years we have seen the widespread adoption of the idea of Lean across a range of public services in the UK (Radnor and Walley, 2008; Radnor, 2010a). In a recent review focusing on the use of business process improvement methodologies in the public sector, 51% of publications were found to be focused on Lean (Radnor, 2010b).

Despite the growing importance of Lean, research into its implementation in the UK has given rise to a picture in which its impact has, in a number of ways, been quite limited. Within a large organization, for example, the implementation might be restricted to a small part of its operations. Lodge and Bamford (2008), for example, looked at the impact of Lean on waiting times in the radiology department of a hospital. Lean implementations have been limited in depth as well as in scope. In Radnor et al.'s (2012) expression, the research shows evidence of a 'tools-based' approach—and very often a very limited range of tools at that.

But while positive outcomes have been reported (eg Silvester et al., 2004; Radnor and Boaden, 2008), they do need to be looked at with great caution. Rather than representing the transformation of thinking and systems in an organization, the results are quite consistent with the kind of limited, low-level application of Lean that we have identified here. Radnor et al. (2012) have argued that the current focus of Lean has been around immediate and quantifiable outcomes such efficiency and cost-cutting, rather than more fundamental objectives such as effectiveness and systems development. It is difficult to say that the results we observe actually

represent an enhancement of 'value' in the sense put forward by advocates of Lean (Young and McClean, 2008).

Teamworking and work restructuring in the UK public sector

Despite the work team supposedly lying at the 'heart' of lean production, research into second-wave Lean has had little to say about the part played by employees. A full understanding of Lean would seem to require that this omission be addressed. We do have a number of attempts to place the employees centre-stage, and one of these, the work of Carter et al. (2011a, 2011b, 2013a, 2013b), we look at it in more detail below. We should also mention Waring and Bishop's (2010) ethnographic study, which emphasises the degree to which employees' compliance with lean practices was often only of a symbolic or ritualistic nature.

But our focus on lean teams also allows us to make use of other research into the more general restructuring of work in the UK public sector. Whether lean teams or not, a large part of this restructuring has taken place on the basis of team-based forms of work organization. Thus in the area of health services, for example, we have seen the development of teams in areas such as surgical operations (Finn, 2008), genetic services (Finn et al., 2010) and community mental health services (Onyett, 2011). Other work has pointed to the link between teamworking and various measures of organizational performance (West et al., 2002) There has been some questioning of what is understood by 'team' or 'teamworking' in these circumstances, and this has been accompanied by calls for much greater clarity in definition (West and Lyubovnikova, 2013). West (2012: 14-15) has argued that around 50% of staff in the UK health service are working in 'pseudo teams': these are the staff who respond

in the affirmative when asked if they work in a team, but in the negative when asked if their teams possess certain properties by which a team might be defined.

The same issue also arises if we focus on research undertaken into teamworking in our case study organization, HMRC, prior to its introduction of Lean. Procter and Currie (2004; see also Currie and Procter, 2003) examined the development of teamworking in the Inland Revenue, HMRC's main predecessor organization. Like West and others in the health service, Procter and Currie found a form of teamworking in which autonomy played little part. Rather than dismissing this as 'pseudo-teamworking', however, they focussed on how teamworking could be understood through placing greater emphasis on the idea of interdependence between team members. In the form of what they described as 'target-based teamworking', they argued that teamworking was effective through the collective responsibility that team members felt for meeting the team's work targets.

In our study of Lean in HMRC, we also need to consider work on the same subject undertaken by Carter et al. (2011a, 2011b, 2013a, 2013b). Their findings are based on interviews and a questionnaire survey undertaken at six processing sites. In contrast to a number of the other studies to which we have already referred, Lean is portrayed as having a fundamental effect on the work of the organization. This effect, moreover, is seen as unequivocally a negative one. Underpinning this conclusion is a labour process perspective which sees Lean in HMRC as the application in a clerical public-sector setting of an almost unadulterated form of Taylorism (Carter et al., 2011b). Lean, argue Carter et al., degrades work; it removes from employees any degree of discretion they might previously have been able to exercise (Carter et al., 2011a, 2011b); it subjects employees to an intensified system of performance monitoring (Carter et al. 2011b); and it undermines the public service ethos which had

allowed employees to see value in their work (Carter et al., 2013a). According to Carter et al.'s (2011b: 91 & 92) survey, for example, 91% of respondents reported a reduction of skills and 91% a decrease in control over work. It is claimed, moreover, that Lean is not even effective on its own, limited terms. The increased levels of efficiency claimed by HMRC, argue Carter et al. (2013a), have been attained only through significant reductions in the *quality* of work performed; and targets have been met only by ignoring some areas of work altogether. At the same time, the survey results suggest that occupational ill-health in HMRC has increased significantly as a result of the introduction of Lean (Carter et al., 2013b).

As we shall see, our own findings do not tally exactly with those of Carter et al. Our findings suggest a rather wider range of experience, both across individual employees and across different parts of the organization. How the differences in findings might be explained is an issue we return to in the discussion section of the present paper. As well as differences in coverage and in approach, we shall see that it can be argued that Carter et al.'s approach does not take adequately into account either what Lean in principle implies for work, especially for teamwork, or how Lean in practice in HMRC was shaped by pre-existing work systems--in particular, the role of performance measures such as target-setting.

We can note at this point that Carter et al.'s survey results are not entirely consistent either with those of the Civil Service People Survey (2011). While the latter survey is cited by Carter et al. (2013a: 96) to show that HMRC has the 'most unhappy' workforce of any UK civil service department, a closer look at the results reveals a more variegated picture. The HMRC's 'employee engagement index' is the lowest of any department, but this seems to be related to dissatisfaction with reward and organizational leadership, where positive response rates were only 24% and 17%

respectively. In areas such as 'resources and workload', which includes items on skills and workload, and 'my team', which relates to intra-team relations and the opportunity to improve ways of working, the positive response rates were 62% and 74% respectively (although still below national benchmarks and averages for the civil service). While these results are not directly comparable with those of Carter et al.'s survey, they do at least imply that the situation is not so uniformly bleak as Carter et al. suggest.

Research Site and Research Methods

Her Majesty's Revenue and Customs (HMRC) and Pacesetter

Her Majesty's Revenue and Customs (HMRC) was established in 2005 as the unified tax assessment and collection department of the UK government. It was formed by the merger between the Inland Revenue, the government department previously responsible for the administration of direct taxation, and HM Customs and Excise, previously responsible for indirect tax. HMRC is also responsible for the collection of National Insurance contributions and for the payment and administration of tax credits, Child Benefit and Child Trust Fund.

At the time of the research in 2007, there were four types of business units in HMRC: operational units, product and process groups, customer units and corporate functions. The operational units employed over 70,000 staff and focused on delivering services such as processing, local compliance and customer contact. This research focused on HMRC Processing, which in April 2006 began rolling out the change programme known as 'Pacesetter'. Led by the Director of Personal Tax, the four main elements of Pacesetter were: Leadership Development, Operational Management, Lean, and Workforce Strategy and Capacity Management. The

objectives of the programme were to improve efficiency and customer service by delivering a 30% improvement in productivity, to reduce backlogs and inconsistencies, and to ensure that HMRC Processing became the UK Government's Processor of choice (Radnor, 2010a; Radnor and Bucci, 2007).

Within the Pacesetter programme, Lean was based on a three-pronged approach (for a full description, see Radnor and Bucci, 2007):

- Redesigning service delivery processes so as to eliminate waste and variability, maximise flexibility, improve productivity and quality, and reduce lead-time.
- Changing current management processes to create appropriate management infrastructure to sustain improvements.
- Changing mind-sets and behaviours of leaders and front-line staff so as to support the new systems and deliver continuous improvement.

Lean was implemented in all HMRC Processing's strategic sites. These were the larger sites which were scheduled to absorb the work of the smaller sites over a period of time. In order to implement Lean, there were a number of 'Local Lean Experts', based in local tax offices, and 'Central Lean Experts', who rotated over three-month periods between sites. The internal staff had been supported by external consultants since Lean was originally trialled in 2004. Consultants involved in the Lean implementation included McKinsey Consultants, PA Consulting and, since 2006, the Unipart Group (see Radnor, 2010a).

The creation of lean teams took place through the implementation of new processes and structures. The implementation of Lean within each of the case study sites was carried out through a diagnostic process led by the central and local Pacesetter team. The diagnostic stage consisted of considering the current state of the processes, looking at the set-up of the teams, considering the demand at the site, and

then designing the future-state process on the basis of the targets to be achieved. Once the diagnostic stage had been completed, pilot teams were established to trial the future-state process.

Research methods

In order to undertake the research, ten HMRC strategic sites were identified by the Pacesetter Programme Office. The ten sites included five large processing offices (LPO), two distributed processing offices (DPOs), and three national processing centres. As Table 1 makes clear, the LPOs and DPOs each covered tax services at a local level, while the national processing centres each operated on a nationwide basis in respect of smaller and more specialist areas such as National Insurance. Documentation collected from the sites and the Programme Offices included Pacesetter Programme documents and the Lean Academy handbook. Sites also provided organisation charts, current and future-state maps for the processes concerned, and information on performance collated over a period of time.

Table 1 around here

The main vehicle for data collection was a series of site visits undertaken between January and May 2007. Each visit, with one exception, extended over a two-day period. Across the sites visited, semi-structured interviews or focus groups were undertaken with a total of 296 personnel. The interview protocol was tailored to the different grades of staff. The personnel interviewed at every site included Senior

Managers (SMs), Senior Officers (SOs), Higher Officers (HOs), Officers (Os), and team members consisting of Administrative Officers (AOs) and Administrative Assistants (AAs). The actual numbers and profiles of those interviewed varied according to the size and nature of the sites (see Table 1). In terms of relevance to this paper, the focus of the data analysis was on the staff who were placed or had the potential to be placed in lean teams. These were all the 'front-line staff' identified in Table 1 and consisted of Os as team leaders and, AOs and AAs as team members. They were interviewed in focus groups, primarily as groups of Os and then as mixed groups of AOs and AAs.

In order to understand the implementation of Lean, the interviews and focus groups were structured around a number of basic issues These included what staff understood both by Pacesetter and by Lean; what staff saw as the qualitative and quantitative impact of Lean implementation; what problems had arisen and also what had worked well during implementation; and, most important for our purposes here, what had changed as a result of the implementation in terms of individual roles, the processes, the interaction with the customer and the working of individual teams. Groups and individuals were asked how they had experienced Lean in terms of their own job, their team's work and their understanding of the customer. They were asked also to describe teamworking on their own site; whether there were differences between the Lean and non-Lean processes; how the performance of teams was measured; and whether, and with what effect, this had changed for the Lean processes.

Notes were taken of all interviews, and the majority were recorded on a digital recorder and then fully transcribed. At the end of each site visit, a site report was prepared by the visiting researcher. The site report summarised the main responses to

the questions asked during the interviews and focus groups, and highlighted the site-specific reflective notes of the visiting researcher. These reports were amalgamated at the end of the evaluation and common issues were drawn together and coded. The data was used to develop a final evaluation report which was validated by senior HMRC personnel (Radnor and Bucci, 2007). This paper makes reference to this report but draws primarily on the data collected through the course of the research.

Findings

Our attempt to understand the operation of lean teams in HMRC gave rise to an analysis of the data structured around three key areas. The first of these is the nature of the work experienced by employees as individual team members; the second, the degree to which employees' experience of autonomy corresponded to that suggested by the model of lean teams; and third, in partial explanation of the experience of autonomy, the role played by the continuing emphasis on team targets. We look at each of these areas in turn.

The nature of work in lean teams

Turning, then, to the nature of work in HMRC's lean teams, we can say first of all that there was evidence of employees feeling that work had become fragmented and degraded. According to representatives of the main trade union, Lean had led to a situation in which there was 'deskilling, little challenge, excess monitoring and where poor performers could not hide.' One employee referred to feeling like being a 'cog in a wheel'. In all the case study sites, employees reported that they were each responsible for only part of a whole process, rather than seeing a case through from

start to finish, as was the situation 'pre lean'. As one front-line employee, an AO, expressed it:

> My job has changed. I did have a lot of variety to do, as in post and dealing with phone calls. Now I … get a return … and do only one particular part of that return. That might be inputting the information or coding the record correctly and then passing it on to the next person. Because I am now doing only one part, I've lost a lot of knowledge that I had gained before.

A number of front-line staff (both AOs and AAs) pointed to the negative consequences of this. One said:

> Like everyone else I feel I've been deskilled. We used to do different work, a good variety of post, but on Lean we do only six different types and follow the instructions. If you don't follow the instructions you are marked as wrong. It gets monotonous and [the] more you get bored, the more you make mistakes.

But the picture was by no means a universally negative one. Even the employee who referred to being a 'cog in a wheel' was prepared to qualify this description. There was an acknowledgment on the part of front-line staff that they did work in an environment in which some degree of interdependence was necessary and even welcome. Some AOs and AAs felt that the new lean processes gave them a greater understanding of how what they did fitted into the process as a whole. Across both the taxation offices and the national processing centres, some AO and AA staff welcomed the changes to the way in which work was organized, feeling that there was more structure to their working day. Where there once had been different practices across and within sites, there was now more of a structure to enable all sites to undertake the work in the same way. As one expressed it:

> For me, it's simplified the work. I don't think about what cases I have to do. My day is mapped out for me and it's structured. I can concentrate on the process I am assigned to do at a set time.

Another officer said:

> [Lean has] given me a clearly defined structure and its enables me to go out and look at things that would otherwise have been hidden away because it's more visible.

In addition, there was some feeling that work organized in this way offered a better service to the taxpayer. Thus while individual workers might be restricted to a smaller range of tasks, the expertise each of them could develop could improve the quality of the work of the team as a whole. Robust performance data proved difficult to obtain at a team level, but there was a sense that the completion time and the number of queries related to the taxpayer had both been reduced (Radnor, 2011). In the words of one HO:

> From a customer point of view, the one thing that I've found from the start when we were doing self-assessment returns is that Lean has produced better quality work, which has got to be good for the man outside. It has a benefit to the customer because it is done, in this particular site more correctly than it was pre-Lean.

Thus while we can identify some reduction in the variety of work and in the discretion that individual employees were able to exercise, Lean can also be seen to be associated with a more structured approach to work, which provided a clarity and focus to the work that some employees appreciated. and a heightened sense of common purpose. As we highlighted in the introduction to the paper, Lean, in principle at least, could also involve a greater degree of a particular kind of autonomy. It is to issues of autonomy that we now turn.

Worker autonomy in lean teams

Issues of autonomy in lean teams are centred around the organization's standard operating processes or SOPs. In the case of HMRC, standard processes were developed and managed by a senior manager and their team at one designated site. In rolling these out to other sites, any major deviation from the standard process had to be considered by this so-called 'process owner'. Involvement in Lean implementation within each site was confined largely to senior management. Their role was to agree site performance targets (for such things as quality, productivity and lead time), be involved in the on-site Pacesetter launch meetings, maintain contact between the Pacesetter team, trade union representatives and staff, and reassure staff about the impact of the introduction of new processes and operating procedures. Even middle-level managers only became involved in implementation when Pacesetter was being implemented in their own process areas.

There was thus considerable evidence that many front-line staff felt that they had had no real input into how the new processes were implemented. Staff interviewed in the course of the research often stated that the procedures were not 'fit for purpose', and that when they had tried to change them (even through the designated 'process owners'), they had met with little success. Staff in one LPO, for example, came up with innovations around the layout of their performance board, the introduction of SMART targets, and a productivity calculator. None of these was implemented, despite the acknowledgement from one manager on the site that this 'may have softened the blow for staff or made Lean more acceptable to them'.

The lack of employee involvement in the introduction of the standard operating procedures might have counted for less if employees had subsequently been able to play a part in the procedures' ongoing development. Within Pacesetter, the formal position was that there were opportunities for greater staff involvement

through structured approaches to improvement and problem-solving. These included the '3Cs'--concern, cause, countermeasure—through which staff were encouraged to highlight and to share with other teams the issues they had faced and the means they had used to resolved them. There were also intended to be weekly problem-solving meetings, in which teams of staff and managers got together to look at and resolve problems using a process called the 'problem-solving O' (based around the plan-do-check-act framework). The importance of all this was recognised by one AO:

> The managers have to actively seek and get staff involved in solving problems, since they are the ones actually doing the work; I think that is key with Lean. Staff have a say and can improve process themselves by working through problems.

Such activities were of clear appeal to many of the staff interviewed. Some front-line staff were sceptical, regarding the new systems as 'overkill', and arguing that the solutions to many of the problems were in any case well-known. The balance, however, was very much on the positive side. When asked which elements of Pacesetter they would most like to retain, many interviewees pointed to the focus on structured problem-solving.

The major problem was that even where effort was put into working out and proposing improvements, operating procedures remained the prerogative of senior management or the process owner. Even some of those at Officer and Higher Officer level--who in general took a positive attitude to the opportunities to address problems--expressed frustration at the fact that their proposals were not always put into effect. There arose the feeling that there was no flexibility to make improvements and that the new problem-solving procedures were a pointless exercise. This was particularly apparent in the local or regional tax offices (LPOs and DPOs), where there was a real concern that the standard work instructions might even start to be ignored if they did

not become more user-friendly and if the process for making changes to them was not improved:

> The standard work instructions could be lost if they are not sorted out. If people are told they are empowered to make changes, they will only feel empowered if the organisation responds to them.

Although the frustration this represented was typical of the situation in the local or regional tax offices, a different picture emerged in the national processing centres. As their name suggests, each of these centres was responsible at a national level for a particular process or area of work. In contrast to the local or regional offices, therefore, where basically the same work was being done in each one, each of the national offices was unique in its responsibilities. This made it much easier for the senior management in the office to themselves shape and develop the SOPs, rather than having to conform to an externally-imposed nationwide blueprint.

These structural factors were thus reflected in some degree of autonomy for the national offices in the development of their SOPs. During the implementation of Lean, senior management in these centres had been very firm with the central Pacesetter programme team with regard to timescales. They had also been very determined to keep external consultants involved until there was no longer a need for them. The argument advanced for this was that implementation should be based upon perceived business needs and not just led by an end-date stipulated in a contract.

As a consequence of all this, the level of 'buy-in' and understanding amongst the staff at the national sites was much more apparent and positive than it was at the local ones. At the central processing sites, staff were able to use the diagnostic process to develop and implement their own standards and processes. Within these, more flexibility was built in, with the process teams being able to dedicate time to

meetings and problem-solving activities. Although it was acknowledged that this was part of a continuous, long-term process, managers at the site saw a clear relationship between problem-solving and engagement in the process:

> Problem-solving is key to staff engagement. If staff are involved meaningfully in problem-solving and they can actually change what they are doing, then they feel they have some control over what they do. We need to do more on this, but we are doing a lot better than we were.

Thus while in principle we see an indirect form of autonomy as one of the main defining characteristics of a lean team, looking at things in these terms in the context of HMRC reveals a rather messier reality. Front-line staff in the local offices had little input into either the introduction or the development of their standard operating procedures. The national processing centres, on the other hand, were able to use their respective unique positions as a means of retaining some control over how they did their work, which in turn encouraged a greater degree of involvement on the part of front-line staff. To gain a fuller understanding of how lean teams operated in HMRC, we need to look at what else was shaping it. We turn now, therefore, to the issue of team targets.

Lean teams and team targets

In order to fully understand how lean teams operated, we need to consider them in the context of the target-based system in which they were developed. It must be conceded that for some in HMRC, the operations of the teams was not seen as an important issue. In this view, membership of a team was little more than nominal. One Officer said that in their view 'team' was simply 'a term to define a loosely related group of people'. The fact that individual taxpayer cases had now to be worked on by than one employee, however, promoted a greater focus on the team as

the key work unit. One focus group of AAs and AOs discussed how teamworking had been enhanced as a result of the changes, as simply more of it was now required. At the very least a recognition that the reorganization of work meant that staff now had a better idea of who their immediate colleagues were, and, as a result, would discuss work with them much more than before. This feeling was encouraged by the holding of daily team meetings and by the physical presence of team performance boards.

The meetings and the boards, however, might better be seen as the physical manifestation of the continued importance given to the achievement of performance targets. The diagnostic process in the sites included the timings of the process and the agreement of team work targets. The achievement of the targets was tracked hourly by recording the progress of individual team members. Individual progress was aggregated to the team level and noted on the team performance board. There was a view widespread across many sites that the focus was on target-hitting rather than improving the service offered to the taxpayer.

This emphasis on meeting targets shaped the operation of teamworking in two important ways. The first and most obvious of these is that pressures to meet the targets simply reduced the time available to take part in problem-solving or improvement activity. As we have seen, interviewees were broadly supportive of this kind of activity, and felt frustrated at the imposition of targets. As one interviewee expressed it:

> We can't take time out to have an instant meeting about problems. We are encouraged to do this, but the stats targets don't change. There isn't time to do this.

There was thus a perception at some sites that the pressure of work was such that there was no real opportunity to be involved. 'Problem solving has been good,' said one front-line employee, 'but there has not been enough of it'. Looking at it the other way round, then if time was taken to focus on problem-solving, this could have a negative effect on performance. 'Some processes have more problem-solving sessions than others,' said one respondent, 'and people are being taken out of the teams to carry them out. This is impacting upon performance'. Another member of front-line of staff stated, '[the daily meetings] are a waste of time and resource when I could be getting on with some real work and meeting the targets'. The tension between solving problems and meeting targets was well-expressed by a third employee:

> If we solve the problems that are stopping us hitting the targets or stop us working more efficiently, then this is fine, but if we are constantly having meetings to solve problems and we are not hitting the targets and the problems aren't being resolved or aren't affecting the targets, then we are creating a problem rather than solving a problem.

The second way in which targets helped shape the nature of teamworking was through its effects on how members of a team related to each other and worked together. In some cases, particularly front-line staff, it was felt that the targets were being used to monitor individual performance. One said:

> The pressure to achieve comes from internally as well. We must accept that as soon as people start collecting statistics, people want to achieve; they may pretend they don't care, but they do. You therefore put pressure on yourself because you know that you have been counted.

Of more interest to us, however, is how individuals placed greater emphasis on how their own efforts contributed to the team as a whole. Part of this can be put down to more or less direct pressure from management. Front-line staff could feel under

pressure from their front line managers, while the front-line managers were themselves under pressure from further up the managerial hierarchy.

The pressure felt by team members can be understood in one of two ways. For some, it was a negative development; it was seen simply as having to work harder in order to compensate for those not working hard enough. This could be cause of significant resentment. One team member said:

> Some people are having to compensate for those that don't work so well. You are not supposed to pinpoint people who are not working because it's a team effort, but when people slack off, it can really annoy other people in the team.

On the other hand, the same pressures could be seen as contributing a greater sense of identification with the work of the team as whole. It was accepted that differences in individual performance might exist—and also that there might be good reason for this. Differences in performance against a numerical target could arise not just from differences in effort levels, but also from differences in the degree of difficulty of the cases being dealt with. A more structured approach to work might involve some reduction in the degree of discretion that individuals were able to exercise in deciding what cases to work on—but at the same time it could reduce tensions arising from the temptation on the part of some individuals to take the more straightforward cases in order to meet their own individual targets. This 'cherry-picking' of cases had been a long-standing concern for management at a number of sites.

In what were perceived as the better-functioning teams, therefore, a more collective, team-based approach could be seen. Focus groups referred to improved 'team spirit', particularly when the team was achieving its targets. As a Higher Officer on one site commented, 'On the two better performing teams, a good team

spirit exists, they are very engaged, take accountability for things and actually want to do a good job.' In such teams there was now more cooperation between individuals within teams and between managers. According to one team member, there was a heightened sense of common purpose:

> We work better as a team. This is a positive. Before [Lean] everyone had a set number of claims to process and people would sit at the desk and not speak to many people on your team…. Now there is more involvement as a team to solve problems and to work to reach the targets.

It was difficult to obtain the quantitative data at a team level that would have allowed this relationship to be tested more formally. Nonetheless, the richer data obtained from our qualitative interviews allowed us to identify the tensions between targets and the operation of lean teams—and also the different ways in which these tensions might play out.

Discussion and conclusions

Having presented the findings from a thorough and comprehensive investigation of one of the most high-profile implementations of Lean in the UK's public services, we can return explicitly to the research questions posed in our introduction. In answer to the first of these, we saw in our review of existing work on Lean an idea of what we might expect lean teams to look like. While on the basis of some autonomy-focussed definitions it might be tempting to dismiss these as not being teams at all, we saw in our review of the secondary literature a distinctive form of teamworking in which employees have responsibility for the continuous improvement of standard operating procedures or SOPs.

In looking at Lean in practice in HMRC, the subject of our second research question, our findings represent a more nuanced alternative to the almost exclusively

negative interpretation offered by Carter et al. (2011a, 2011b, 2013a, 2013b). Our findings can be seen to be more in line with the range of experience suggested by the results of the Civil Service People Survey (2011). Thus while we can see that there is some evidence to support Carter et al.'s portrayal of Lean as being associated with the fragmentation of work and the loss of employee discretion, a closer analysis reveals that this is only part of the picture. For one thing, some welcomed Lean on the basis that it gave them greater structure and a better understanding of where their own work fitted with the work of the organization as a whole. In this respect we can give some support to Vidal's (2007) findings that predictability might be as welcome as empowerment to some employees.

Moreover—and perhaps more importantly for our purposes—Carter et al.'s analysis takes little account of how employees work together in teams under Lean. There are two aspects to this. First, Carter et al. neglect how, in principle at least, lean teams are able to exercise an indirect form of autonomy through their input into improvement and problem-solving activities. As we have seen, it would be greatly overstating the case to say that a high degree of this form of autonomy was universally enjoyed in practice. What we see in HMRC is, again, a degree of variation. In the local and district offices (the LPOs and DPOs), although the mechanisms did exist by which employees could play a significant role in both the creation and the development of operating procedures, little effective use was being made of them. We can thus take heed of Schouteten and Benders' (2004) caution that account should be taken of the extent to which employees are able to exercise a heightened degree of autonomy. In the more specialist operations undertaken in the national-level processing centres, on the other hand, the centres' managers retained a greater degree of control over processes and were able to use this to encourage greater

involvement on the part of employees. The differences between the two types of office appear to relate to the greater autonomy afforded to the national centres rather than directly to differences in the nature of work. Thus while consistent with Benders' (1995) emphasis on output characteristics, they can offer it only indirect support.

A demonstration of the second aspect of Carter et al.'s neglect of teams provides us also with an answer to our third research question: how can we explain the form that teamworking takes in practice in HMRC? The Civil Service People Survey (2011) shows working as a member of a team to be the most positive aspect of work amongst those surveyed in HMRC. As we have seen, the key to understanding the operation of teams here is the continued emphasis placed on the achievement of work targets. At one level, there was a simple inconsistency between targets and lean teams: either improvement activity was squeezed out or, to the extent it was undertaken, it was regarded as being to the detriment of the achievement of targets. More than this, however, we can see how the targets helped shape how members of the team related to each other. Yet again, this could work in different ways. A heightened concern for how individual efforts contributed to team performance could have the effect of encouraging resentment amongst those who felt that they were making a disproportionately large contribution. On the other hand, the targets could be seen in a more positive light, as providing the framework and incentive for a more collective effort. What we see might be regarded as an intensified form of the 'target-based' form of teamworking identified by Procter and Currie (2004).

This in fact takes into our fourth research question, the implications of this analysis for our understanding of Lean and the way it is introduced and operated in organizations. It is clear from what we have presented here that it is not just a matter

of adopting the philosophy and principles of Lean. The way in which lean teams worked—and didn't work--was shaped by the environment into which they were introduced. Two aspects of this might be highlighted. The first is the organizational environment. In HMRC, as we have just seen, this was manifest most clearly in the emphasis on targets and the form of teamworking to which this gave rise. The second aspect is what we might describe as the 'market' environment in which an organization operates. Earlier sections of this paper showed that concepts of JIT are premised essentially on demand-constrained environments: workers should produce only in response to demand (Oliver, 1991). In HMRC, the pervasiveness of targets suggests the opposite, a labour-constrained environment: workers should produce as much as they can. The implications of looking at things in this way need to be more fully worked-out. It is to be hoped, however, that it can be used to improve our understanding of Lean and the way it is managed within organizations.

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Site	No. of Staff on site	Staff Interviewed	Lean Processes at time of Research	% Staff Involved in Lean
Chapel Wharf (LPO)	~970	• 5 Managers (2 SOs; 3 HOs) • Local Lean Expert • 20 Front-line Staff (4 Os in a Focus Group; 16 AOs and AAs across 2 Focus Groups)	Self-Assessment Employee Maintenance Open Cases Post	~75%
NOS Wolverhampton (National Processing)	~250	• 4 Managers (2 SOs; 2 HOs) • Local Lean Expert • 17 Front-line Staff (2 Os, 8 AOs and AAs in a Focus Group; 7 AOs and AAs in a Focus Group)	Deregistration Registration	~50%
Child Benefit Office (National Processing)	~1,200	• 7 Managers (4 SOs; 3 HOs) • 3 Local Lean Experts • 21 Front-line Staff (8 Os in a Focus Group; 13 AOs and AAs across 2 Focus Groups)	Claims Receipt Post	~10%
Ipswich (DPO)	~120	• 3 Managers (1 SO; 2 HOs) • 3 Local Lean Experts • 10 Front-line Staff (3 Os, 7 AOs and AAs in a Focus Group)	Self-Assessment	~50%
Birmingham (DPO)	~300	• 4 Managers (1 SO; 3 HOs) • 2 Local Lean Expert • 23 Front-line Staff (5 Os in a Focus Group; 18 AOs and AA's across 2 Focus Groups)	Self-Assessment Employee Maintenance Post	~80%
Lothians (LPO)	~800	• 5 Managers (2 SOs; 3 HOs) • Local Lean Expert • 28 Front-line Staff (9 Os in a Focus Group; 19 AOs and AA's across 2 Focus Groups)	Self-Assessment Post Open Cases Employee Maintenance	~60%
South Wales (LPO)	~900	• 5 Managers (2 SOs; 3 HOs) • 2 Local Lean Expert • 24 Front-line Staff (8 Os in a Focus Group; 16 AOs and AAs across 2 Focus Groups)	Self-Assessment Employee Maintenance Open Cases Post	~80%
East Hampshire and Wight (LPO)	~650	• 4 Managers (1 SO; 3 HOs) • Local Lean Expert • Trade Union Representative • 27 Front-line Staff (10 Os in a Focus Group; 17 AOs and AAs across 2 Focus Groups)	Self-Assessment Employee Maintenance Customer Reviews Customer Correspondence	~85%
West Yorkshire and Craven (LPO)	~400	• 5 Managers (2 SOs; 3 HOs) • Local Lean Expert • 32 Front-line Staff (10 Os in a Focus Group; 22 AOs and AAs across 2 Focus Groups)	Self-Assessment Employee Maintenance Open Cases Post	~60%
National Insurance Contributions Office (National Processing)	~3,500	• 4 Managers (2 SOs; 2 HOs) • 4 Lean Experts • 2 Local Lean Experts • 28 Front-line Staff (9 Os in a Focus Group; 19 AOs and AAs across 2 Focus Groups)	Refunds	~20%

Table 1: HMRC Processing Sites and Interviews